



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,555	12/05/2003	Delton R. Thompson JR.	56109US011	9972
32692 7590 11/02/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER BUTLER, PATRICK NEAL	
			ART UNIT 1791	PAPER NUMBER
			NOTIFICATION DATE 11/02/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com  
LegalDocketing@mmm.com

# Office Action Summary

Application No.

10/728,555

Applicant(s)

THOMPSON ET AL.

Examiner

Patrick Butler

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Appeal Brief***

In view of Applicant's remarks in the Appeal Brief filed 19 July 2007, prosecution of the instant application is re-opened with additional grounds of rejection (rejection under 35 U.S.C. 103(a) as obvious over Buntin et al.). As such, the finality of the rejection of the last Office action is withdrawn and a new non-final rejection is presented below. Claims 1-10 are pending in the instant application.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Buntin et al. (US Patent No. 3,849,241) as evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26).

With respect to Claim 1, Buntin teaches making melt blown non-woven webs by extruding PET at a temperature of 550 F (288 °C) or well above PET's melting point. As

Art Unit: 1791

evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26), PET's melting point is 250-260 °C. Well beyond 250-260 °C would necessarily include 280-300 °C, which is less than the claimed temperature of about 295 °C. Buntin further processes with a stream of air at 500 F (260 °C), which reads on the claimed range of less than about 260 °C given the range implied by "about", delivered at a sonic velocity level, which is greater than 100 meters per second, and collecting the filaments into a mat (see abstract; col. 4, lines 31-45; col. 7, lines 59-64; and col. 9, lines 20-23).

While Buntin does not detail aspects of the properties of crystallization of the PET, the PET of Buntin would necessarily have chain-extended crystallization imparted principally because Buntin teaches the same process as applicant.

Alternatively, if it is held that only Buntin's general temperature teaching of "well above" the polymer's melting point apply to the list of applicable polymers (see col. 3, lines 34-45) or if it is held that specifically PET's selection (col. 4, lines 31-45) would not have been clearly anticipated, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the broadly applicable processing temperatures (see col. 3, lines 34-45) to PET (col. 4, lines 31-45) in order to make a melt blown mat of substantially completely free of polymer shot (see abstract) out of polyester, with its inherent properties such as being hydrophobic and its thermal stability versus polyolefins or at least because of its recommended useful benefit of being used in Buntin's process (col. 4, lines 31-45).

Art Unit: 1791

With respect to Claim 2, Buntin teaches that the extruded resin would have about 0.6 to about 1.4 i.v., which reads on the claimed range of 0.45-0.75 i.v. (see col. 2, lines 43-58).

With respect to Claim 3, while Buntin does not detail aspects of the properties of crystallization of the PET, the PET of Buntin would necessarily exhibit a double melting peak on a DSC plot which is representative of a first molecular portion within the fiber that comprises a non-chain-extended crystalline phase, and a second molecular portion within the fiber that comprises a chain-extended crystalline phase and melts at an elevated temperature over that of the non-chain-extended crystalline phase principally because Buntin teaches the same process as applicant.

***Claim Rejections - 35 USC § 103***

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buntin et al. (US Patent No. 3,849,241) as evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26) as applied above to Claim 1, and further in view of Thompson et al. '081 (US Patent No. 5,841,081).

With respect to Claim 4, Buntin teaches making a nonwoven web as previously described.

Buntin does not specifically teach that additional fibers or particles are dispersed among the PET fibers before they are collected.

Thompson '081 teaches a method of making a nonwoven web by adding 15 percent or greater heat activatable staple fibers to the other fibers within the web.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add heat activatable fibers as taught by Thompson '081 within the web as taught by Buntin in order to bond the heat activatable fibers with each other and the other fibers within the web because it would provide a source area and a receiving area such that a major face of the insulation web intercepts and thereby significantly attenuates sound waves passing from the source area to the receiving area (see Thompson '081 col. 1. lines 55-63).

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buntin et al. (US Patent No. 3,849,241) as evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26) in view of Thompson et al. '322 (US Patent No. 5,958,322).

With respect to Claim 5, Buntin teaches making melt blown non-woven webs by extruding PET resin with about 0.6 to about 1.4 i.v., which reads on the claimed range of about 0.45-0.6 i.v. given the range implied by "about," at a temperature of 550 °F (288 °C) or well above PET's melting point. As evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26), PET's melting point is 250-260 °C. Well beyond 250-260 °C would necessarily include 280-300 °C, which is less than the claimed temperature of about 85 °C given the range implied by "about", with a stream of air at 500 °F (260 °C), which reads on the claimed range of less than about 270 °C, delivered at a sonic velocity level, which is greater than 100 meters per second, to make fibers of 0.5 to 5 microns (micrometers) diameter, which is within the claimed range of an average diameter of about 20 micrometers or less, and collecting the filaments into a

Art Unit: 1791

mat (see abstract; see col. 2, lines 43-58; col. 4, lines 31-45; col. 7, lines 59-64; col. 9, lines 20-23; and col. 19, lines 30-37).

Alternatively, if it is held that only Buntin's general temperature teaching of "well above" the polymer's melting point apply to the list of applicable polymers (see col. 3, lines 34-45) or if it is held that specifically PET's selection (col. 4, lines 31-45) would not have been clearly anticipated, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the broadly applicable processing temperatures (see col. 3, lines 34-45) to PET (col. 4, lines 31-45) in order to make a melt blown mat of substantially completely free of polymer shot (see abstract) out of polyester, with its inherent properties such as being hydrophobic and its thermal stability versus polyolefins or at least because of its recommended useful benefit of being used in Buntin's process (col. 4, lines 31-45).

Buntin teaches that self-bonding can occur via various processes (see col. 19, lines 33-37) but does not explicitly teach passing the web through an oven.

Thompson '322 teaches annealing a non-woven while restrained through an oven (see abstract and col. 11, lines 53-58). As the temperature is sufficiently high to thermally bond the fibers together, the fibers would necessarily thermally bond together—autogenously bonded.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to pass a nonwoven through an oven as taught by Thompson '322 utilizing the web as taught by Buntin in order to form a dimensionally stable nonwoven fibrous web (see Thompson '322 abstract).

With respect to Claim 6, Buntin et al. in view of Thompson et al. '322 do not appear to explicitly teach that the extruder temperature is within the claimed range (e.g., less than 275 °C). However, in this regard, Buntin further teaches the total degradation is a function of the pre-extruder temperature, extruder temperature, airflow, and air temperature. As such, Buntin obvious recognizes that extruder temperature is a result-effective variable. Since the extruder temperature would be a result-effective variable, one of ordinary skill in the art would have obviously determined the optimum the extruder temperature applied in the process of Buntin et al. in view of Thompson et al. '322 through routine experimentation based upon total desired thermal degradation and its related viscosity.

With respect to Claim 7, Buntin teaches that the speed of the air is at sonic velocity levels, which is included within the claimed range of at least 150 meters per second (see col. 9, lines 20-23).

With respect to Claim 10, Buntin teaches that thermoplastic polymer of the web can include PET and other polymers as a mixture (see col. 4, lines 32-42).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buntin et al. (US Patent No. 3,849,241) in view of Thompson et al. '322 (US Patent No. 5,958,322) as evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26) as applied to Claim 5 above, and further in view of Thompson et al. '081 (US Patent No. 5,841,081)

With respect to Claim 8, Buntin in view of Thompson et al. '322 teaches making a nonwoven web as previously described.



Buntin in view of Thompson et al. '322 does not specifically teach that additional fibers or particles are dispersed among the PET fibers before they are collected.

Thompson '081 teaches a method of making a nonwoven web by adding 15 percent or greater heat activatable staple fibers to the other fibers within the web.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add heat activatable fibers as taught by Thompson '081 within the web as taught by Buntin in view of Thompson et al. '322 in order to bond the heat activatable fibers with each other and the other fibers within the web because it would provide a source area and a receiving area such that a major face of the insulation web intercepts and thereby significantly attenuates sound waves passing from the source area to the receiving area (see Thompson '081 col. 1, lines 55-63).

With respect to Claim 9, Thompson '081 teaches that the heat activatable fibers added to the PET fibers are in staple form (see col. 1, lines 66 through col. 2, line 2).

Claims 1-3 are rejected under 35 USC 103(a) as being unpatentable over Buntin (US Patent No. 3,849,241) in view of admitted prior art (Application No. 09/716,790, Paper No. 7, 12 December 2002) as evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26).

With respect to Claim 1, Buntin teaches making melt blown non-woven webs by extruding PET at a temperature of 550 F (288 °C) or well above PET's melting point. As evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26), PET's melting point is 250-260 °C. Well beyond 250-260 °C would necessarily include 280-300 °C, which is less than the claimed temperature of about 295 °C. Buntin further

Art Unit: 1791

processes with a stream of air at 500 F (260 °C), which reads on the claimed range of less than about 260 °C given the range implied by “about”, delivered at a sonic velocity level, which is greater than 100 meters per second, and collecting the filaments into a mat (see abstract; col. 4, lines 31-45; col. 7, lines 59-64; and col. 9, lines 20-23).

While Buntin does not detail aspects of the properties of crystallization of the PET, the PET of Buntin would necessarily have chain-extended crystallization imparted principally because Buntin teaches the same process as applicant.

Alternatively, if it is held that only Buntin's general temperature teaching of “well above” the polymer's melting point apply to the list of applicable polymers (see col. 3, lines 34-45) or if it is held that specifically PET's selection (col. 4, lines 31-45) would not have been clearly anticipated, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the broadly applicable processing temperatures (see col. 3, lines 34-45) to PET (col. 4, lines 31-45) in order to make a melt blown mat of substantially completely free of polymer shot (see abstract) out of polyester, with its inherent properties such as being hydrophobic and its thermal stability versus polyolefins or at least because of its recommended useful benefit of being used in Buntin's process (col. 4, lines 31-45).

Buntin does not expressly disclose that the process makes a PET with a double melting peak.

Admission discloses “meltspun oriented PET fibers that exhibit such characteristics” as a “dual melting peak” “with a second melting peak representative of a molecular portion ‘in chain-extended crystalline form and [having a melting point

Art Unit: 1791

elevated over that of the non-chain-extended crystalline form” (Application No. 09/716,790, Paper No. 7, 12 December 2002, Page 3, 5<sup>th</sup> complete paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Applicant's admittedly known fiber into a web by using Buntin's controllable variables within the PET web-making process in order to have a PET web process that successfully makes the known fibers into web at a high polymer throughput (industrial productivity) (see Buntin abstract and col. 4, lines 31-45).

With respect to Claim 2, Buntin teaches that the extruded resin would have about 0.6 to about 1.4 i.v., which reads on the claimed range of 0.45-0.75 i.v. (see col. 2, lines 43-58).

With respect to Claim 3, while Buntin does not detail aspects of the properties of crystallization of the PET, the PET of Buntin would necessarily exhibit a double melting peak on a DSC plot which is representative of a first molecular portion within the fiber that comprises a non-chain-extended crystalline phase, and a second molecular portion within the fiber that comprises a chain-extended crystalline phase and melts at an elevated temperature over that of the non-chain-extended crystalline phase principally because Buntin teaches the same process as applicant and per admission by applicant that it is known to make the PET fiber.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buntin (US Patent No. 3,849,241) in view of admitted prior art (Application No. 09/716,790, Paper No. 7, 12 December 2002) as evidenced by Mark (*Encyclopedia of Polymer*

Art Unit: 1791

*Science and Engineering*, page 26) as applied above to Claim 1, and further in view of Thompson et al. '081 (US Patent No. 5,841,081).

Buntin in view of Applicant's admission does not specifically teach that additional fibers or particles are dispersed among the PET fibers before they are collected.

Thompson '081 teaches a method of making a nonwoven web by adding 15 percent or greater heat activatable staple fibers to the other fibers within the web.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add heat activatable fibers as taught by Thompson '081 within the web as taught by Buntin in view of Applicant's admission in order to bond the heat activatable fibers with each other and the other fibers within the web because it would provide a source area and a receiving area such that a major face of the insulation web intercepts and thereby significantly attenuates sound waves passing from the source area to the receiving area (see Thompson '081 col. 1. lines 55-63).

Claims 5-7 and 10 are rejected under 35 USC 103(a) as being unpatentable over Buntin (US Patent No. 3,849,241) in view of admitted prior art (Application No. 09/716,790, Paper No. 7, 12 December 2002) and Thompson et al. '322 (US Patent No. 5,958,322) as evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26).

Buntin teaches making melt blown non-woven webs by extruding PET resin with about 0.6 to about 1.4 i.v., which reads on the claimed range of about 0.45-0.6 i.v. given the range implied by "about," at a temperature of 550 °F (288 °C) or well above PET's melting point. As evidenced by Mark (*Encyclopedia of Polymer Science and*

Art Unit: 1791

*Engineering*, page 26), PET's melting point is 250-260 °C. Well beyond 250-260 °C would necessarily include 280-300 °C, which is less than the claimed temperature of about 285 °C. Buntin further processes with a stream of air at 500 °F (260 °C), which reads on the claimed range of less than about 270 °C, delivered at a sonic velocity level, which is greater than 100 meters per second, to make fibers of 0.5 to 5 microns (micrometers) diameter, which is within the claimed range of an average diameter of about 20 micrometers or less, and collecting the filaments into a mat (see abstract; see col. 2, lines 43-58; col. 4, lines 31-45; col. 7, lines 59-64; col. 9, lines 20-23; and col. 19, lines 30-37).

Buntin does not expressly disclose a PET with a double melt peak.

Admission discloses "meltspun oriented PET fibers that exhibit such characteristics" as a "dual melting peak" "with a second melting peak representative of a molecular portion 'in chain-extended crystalline form and [having a melting point elevated over that of the non-chain-extended crystalline form]" (Application No. 09/716,790, Paper No. 7, 12 December 2002, Page 3, 5<sup>th</sup> complete paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Applicant's admittedly known fiber into a web by using Buntin's controllable variables within the PET web-making process in order to have a PET web process that successfully makes the known fibers into a web at a high polymer throughput (industrial productivity) (see Buntin abstract and col. 4, lines 31-45).

Art Unit: 1791

Buntin in view of Applicant's admission teaches that self-bonding can occur via various processes (see Buntin col. 19, lines 33-37) but does not explicitly teach passing the web through an oven.

Thompson '322 teaches annealing a non-woven while restrained through an oven (see abstract and col. 11, lines 53-58). As the temperature is sufficiently high to thermally bond the fibers together, the fibers would necessarily thermally bond together—autogenously bonded.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to pass a nonwoven through an oven as taught by Thompson '322 utilizing the web as taught by Buntin in view of Applicant's admission in order to form a dimensionally stable nonwoven fibrous web (see Thompson '322 abstract).

With respect to Claim 6, Buntin in view of Applicant's admission and Thompson et al. '322 do not appear to explicitly teach that the extruder temperature is within the claimed range (e.g., less than 275 °C). However, in this regard, Buntin further teaches the total degradation is a function of the pre-extruder temperature, extruder temperature, airflow, and air temperature. As such, Buntin obvious recognizes that extruder temperature is a result-effective variable. Since the extruder temperature would be a result-effective variable, one of ordinary skill in the art would have obviously determined the optimum the extruder temperature applied in the process of Buntin in view of Applicant's admission and Thompson et al. '322 through routine experimentation based upon total desired thermal degradation and its related viscosity.

With respect to Claim 7, Buntin teaches that the speed of the air is at sonic velocity levels, which is included within the claimed range of at least 150 meters per second (see col. 9, lines 20-23).

With respect to Claim 10, Buntin teaches that thermoplastic polymer of the web can include PET and other polymers as a mixture (see col. 4, lines 32-42).

Claims 8 and 9 are rejected under 35 USC 103(a) as being unpatentable over Buntin (US Patent No. 3,849,241) in view of admitted prior art (Application No. 09/716,790, Paper No. 7, 12 December 2002) and Thompson et al. '322 (US Patent No. 5,958,322) as evidenced by Mark (*Encyclopedia of Polymer Science and Engineering*, page 26) as applied to Claim 5 above, and further in view of Thompson et al. '081 (US Patent No. 5,841,081)

With respect to Claim 8, Buntin in view of Applicant's admission and Thompson et al. '322 teaches making a nonwoven web as previously described.

Buntin in view of Applicant's admission and Thompson et al. '322 does not specifically teach that additional fibers or particles are dispersed among the PET fibers before they are collected.

Thompson '081 teaches a method of making a nonwoven web by adding 15 percent or greater heat activatable staple fibers to the other fibers within the web.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add heat activatable fibers as taught by Thompson '081 within the web as taught by Buntin in view of Applicant's admission and Thompson et al. '322 in order to bond the heat activatable fibers with each other and the other fibers within

Art Unit: 1791

the web because it would provide a source area and a receiving area such that a major face of the insulation web intercepts and thereby significantly attenuates sound waves passing from the source area to the receiving area (see Thompson '081 col. 1. lines 55-63).

With respect to Claim 9, Thompson '081 teaches that the heat activatable fibers added to the PET fibers are in staple form (see col. 1, lines 66 through col. 2, line 2).

### ***Response to Arguments***

Applicant's arguments filed 19 July 2007 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC 102(b) rejections. Applicant's arguments appear to be on the grounds that:

1) Buntin does not teach the temperature relied upon of 550 F (288 °C) for PET since such temperature is not specifically cited for PET and the range extends much higher.

2) Other polymers are exemplified by Buntin, yet PET is not part of an example. The examples, when analyzed for their processing temperature relative to their melt temperature, limit Buntin's statement of "well above the melting point" to at least 86 °C above the melt temperature of a polymer. For PET, this would be well above the claimed range of less than 295 °C because PET's melt temperature is 250-260 °C.

3) Applicant's low temperatures provide the chain-extended crystallization, which would not be produced by Buntin.



Art Unit: 1791

4) Meyer's teaching of meltblowing PET does not provide for the degradation required by Buntin.

5) Buntin's teaching of degrading does not constitute meltblowing.

6) Applicant's purpose is to impact the crystallization rather than degrading the polymer.

The Applicant's arguments are addressed as follows:

1) Buntin's temperatures are specifically applicable to the polymers in Buntin.

The Examiner interprets the temperatures and polymers to be associated and applicable principally because they are taught for the same process.

1) Moreover, it would be obvious to use the temperatures taught by Buntin on PET as described above.

1) Moreover, as shown in Applicant's attached reference filed 16 November 2006, *Encyclopedia of Polymer Chemistry*, volume 4, pages 652-3 (Attachment M), Tables 10 and 11, PET degrades above 105 °C. Buntin teaches heating the polymer to a temperature in excess of about 550 °F (288 °C) (see col. 7, lines 23-26 and 59-64). Applicant's claimed temperature is less than about 295 °C. PET at about 550 °F (288 °C) would be:

- within Buntin's temperature range (in excess of about 550 °F (288 °C) (see col. 7, lines 23-26 and 59-64)),
- within Buntin's teaching of degradation (see col. 3, lines 37-47), and
- within applicant's claimed range (less than about 295 °C).

Art Unit: 1791

Thus, Buntin's teaching of degradation of PET would overlap with all of the range of Buntin's temperature range. Since these temperatures taught by Buntin's overlap the same process conditions as Applicant's claimed process, the processes would necessarily have the same results.

2) Moreover, for the 35 USC 102 rejection, it is not a question of whether one of ordinary skill at the time the invention was made would have modified Buntin's temperature range. This is because Buntin is relied upon to teach the temperature range independent of additional motivations to change away from Buntin's teachings.

2) The examples of Buntin do not include PET, however Buntin's Claim 1 does include it as a thermoplastic polymer resin. Analogously, it may be seen that the examples and their ranges are not considered limitations as to the polymer nor the temperature. Therefore, Buntin is relied upon for all that the reference teaches, specifically the polymers and ranges that the reference teaches.

3) The examiner recognizes that all of the claimed effects and physical properties are not positively stated by the reference(s). Note however that the references teach all of the claimed ingredients, process steps and process conditions and thus, the claimed effects and physical properties would necessarily be achieved by carrying out the disclosed process. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the examiner's position that the application contains inadequate disclosure in that there is no teaching as to how to obtain the claimed properties and effects by carrying out only these steps.

4) Buntin's requirement for degradation would be met principally because the required temperatures of process as taught by Buntin are relied upon.

5) Buntin's process of meltblowing at the claimed temperature range as cited is relied upon to teach the required step of meltblowing.

5) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., not degrading) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6) In response to applicant's argument that Buntin does not appreciate the crystallization changes of the polymer, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.-Thu. 7:30 a.m.-5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone

Art Unit: 1791

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Patrick Butler  
Assistant Examiner  
Art Unit 1791



CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER